APPLICATION FORM INSTRUCTIONS

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) CYCLE 7 CALL FOR PROJECTS

This application form is for Highway Safety Improvement Program (HSIP) Cycle 7 Call for Projects. Applicants should submit the application to their respective Caltrans District Local Assistance Office, directed to the attention of the District Local Assistance Engineer (DLAE), by the designated **deadline, Friday, July 31, 2015**. Applications that are delivered after close of business on the due date or are postmarked later than the due date will be not be accepted.

Applicants must download the PDF application form from the Division of Local Assistance HSIP website at: http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply_now.htm. Applicants must prepare their electronic and hard-copy applications as defined in these instructions. Failure to follow this procedure will result in their application being rejected.

Application submittals must include:
1. Two original hard copies of the application and attachments. Both copies must include all appropriate signatures on the application and relevant attachments. The preferred paper size for all pages, maps, schematics, drawings, figures and photographs is 8-1/2 x 11-inch paper. 11 x 17 inch paper is acceptable for maps and plan sheets only.
2. One computer storage disk or flash drive including:
   a. An electronic copy of the PDF application form saved using a file-name that matches the Application ID on the cover page of the final application. This file MUST be in the same file-format as the originally downloaded form to allow the data to be extracted. **This is NOT a scanned copy and thus does not contain any signatures or engineer's stamp.**
   b. One PDF copy of the signed/stamped application and all attachments. This can be a scanned copy and the file size should be minimized.

Important: Read the entire Application Instructions before attempting to prepare and submit the application. Applicants are expected to utilize and follow these instructions in a step-by-step process as they complete their application(s). **Completing an application without referencing to these instructions may result in an incomplete application or an application with fatal flaws that will be excluded from the ranking and selection process. Due to time constraints, the applicant will not be notified of Caltrans findings until after the selection process is complete. If an applicant has questions relating to potential fatal flaws in their application, they should seek assistance from their Caltrans DLAE before submitting their application.**

GENERAL PREPARATIONS

Applicants are expected to submit applications based on a data-driven, comprehensive safety evaluation of their agency's roadway infrastructure, traffic volumes and crash data. Prior to filling in the PDF application form, it is recommended that applicants complete some general preparations:

1) Read the Program Guidelines and other related documents (See DLA website, http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply_now.htm)

2) Review Caltrans' Local Roadway Safety Manual for California's Local Road Owners. This manual should help applicants in selecting good safety projects to compete for federal HSIP funds. (See DLA website, http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply_now.htm)
   Agencies may want to start their review of this manual with Appendix A.

3) Verify your agency is eligible to apply for HSIP funding. Review the HSIP guidelines related to eligibility and confirm your agency has no delivery flags on past HSIP (including HR3 projects). (See DLA delivery status at http://www.dot.ca.gov/hq/LocalPrograms/HSIP/delivery_status.htm)

4) Become familiar with the suite of TIMS tools at the UCB SafeTREC website http://tims.berkeley.edu/. In the process of filling out the PDF application form, applicants are directed to this website for Benefit/Cost (B/C) ratio calculation.

5) Review application examples. In an effort to assist local agencies in identifying highly competitive safety projects and completing the application submittal process, several successful applications from the last Call-for-Projects are posted at http://www.dot.ca.gov/hq/LocalPrograms/HSIP/HSIPHR3Examples.pdf.

6) Review the Engineer's Checklist; which must be completed by the licensed Engineer who is in "responsible charge" of the preparation of this HSIP application. This checklist has been developed to help ensure all of the primary elements of the application are included and the application is free of errors in the calculation of the Benefit-to-Cost Ratio (B/C) so the application can be accurately ranked in the statewide selection process. Engineers are encouraged to print the checklist and then review the corresponding checklist items as they work through these instructions and prepare the final application. (See DLA website, http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply_now.htm)

7) Consider submitting additional applications in the HSIP Cycle 7 Call for Projects to support the agency's overall safety needs. Cycle 7 has a maximum HSIP funds per agency of $10 Million.

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APPLICATION SUMMARY (COVER SHEET)

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This summary page/cover sheet is filled out automatically once the application is completed.

NOTE: The **Application ID** shown on this summary page is generated automatically based on the Caltrans District, the agency name, and the Application Number. This exact Application ID is to be used as the file name for saving the final PDF form and to enter this Application ID in the TIMS B/C Calculator.

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I.   BASIC PROJECT INFORMATION

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Agency
From the drop-down list, **select** the agency name. Only **Type** the name if your agency is not in the list.

MPO
From the drop-down list, select the MPO (Metropolitan Planning Organization) that will be involved with the programming of the project in the FTIP. Select "Other" if not applicable. For information about MPOs, visit http://www.dot.ca.gov/hq/transprog/federal/mpo_ftip_links.htm.

Application Number
 If multiple applications are submitted, each application must have a unique number (1, 2, 3, etc). As stated above, this number is used to generate a unique Application ID.

Contact Person Information
This information will be used to contact the agency relating to funding results and later for project delivery questions.

Project Location
Provide road name, intersection cross street names, and/or geographical references of where the project is located. Be brief (limited to 250 characters). Example: *"On Elm St. between Oak Ave. and Cherry Blvd."* or *"The*

Intersection of Elm St. with Oak Ave." or *"Various locations along Oak Ave"* or *"Various locations throughout the County."*

Project Description
Describe, in general, the types of work that are proposed for the project. Be brief (limited to 250 characters).
Example: *"Install traffic signal; Construct curb, gutter, sidewalk, and curb ramps"* or *"Install traffic signs, stripes and pavement markings"*

Functional Classification
Visit California Road System (CRS) maps at http://www.dot.ca.gov/hq/tsip/hseb/crs_maps/ to determine the functional classification of the road(s) where **most** of the work will be constructed. Select the functional classification from the drop-down list.

CRS Map ID
Enter CRS Map ID (e. g. 08E14) from the CRS website.

Urban/Rural Area
Visit http://earth.dot.ca.gov/ (Caltrans Earth; Layer: Boundaries → Urban Area) and determine that **most** of the proposed work is in urban or rural area. Select "Urban" or "Rural" from the drop-down list.

High-Risk-Rural-Roads (HR3) Eligibility
If the proposed work is **primarily (90% or more)** in rural area and associated with roads functionally classified as "Major Collector", "Minor Collector" and/or "Local", the project should be marked as HR3 eligible. Select "Yes" or "No" from the drop-down list.

Depending on the overall mix of applications submitted, HR3 eligible applications may be ranked and selected for funding separately using a lower B/C Ratio threshold giving them an advantage in receiving funding. HR3 eligible projects, when selected for funding, will be tracked separately due to special requirements.

If this project is NOT HR3 eligible, it is possible that part of the project is HR3 eligible. Provide an approximate total cost percentage that is HR3 eligible.

Work on the State Highway System
All projects that encroach within the State right-of-way must include written correspondence from Caltrans-District Traffic staff, even if it does not impact the existing roadway infrastructure. Failure to provide this documentation will result in the application being rejected from consideration. Joint funded projects must have a formal letter of support. Encroachment projects that are not seeking Caltrans joint funding still require a letter or email from Caltrans stating that Caltrans is in support, or is at least neutral to the proposed project, given the scope of the project shown in the application, and that Caltrans does not see issues that would prevent the proposed project from receiving an encroachment permit.

Caltrans District Local Assistance Engineer (DLAE) will assist the applicants coordinating with Caltrans-District Traffic staff.

Non-Infrastructure (NI) Elements
Though a project must lead to the construction of safety improvements, NI elements are eligible to be included. Check all the types of NI elements included in this proposed project.

All NI elements must be safety-related and directly support the proposed infrastructure safety improvements of the project.

If NI elements are included, NI Activity Worksheet and NI Cost Estimate are required as attachments of the application.

Additional Information

Most of the information requested in this session is required for Caltrans to meet its annual safety program reporting requirements to the FHWA. Responses to these questions will NOT be used in the scoring, ranking or selection process. The responses will be incorporated in statewide and national safety program assessments and used to determine the health of the overall program and potential areas of focus for future program improvements.

Spot vs. Systemic
The Local Roadway Safety Manual includes a detailed description of these two approaches. When more than one type of improvements is proposed in one application, applicants need to select a single "primary type".

SHSP Challenge Area
The goal of this question is to tie the improvements to California's Strategy Highway Safety Plan. Most projects should fall within one of the Challenge Areas.   Visit http://www.dot.ca.gov/hq/traffops/shsp/docs/CA-SHSP-summary-report-2011.pdf names and details on the 17 California Challenge Areas.

Approximate percentage of project cost going to improvements related to motorized/non-motorized travel
Projects benefit a mix of roadway users and modes of travel. For statewide tracking purposes, Caltrans needs applicants to approximate the percent of the overall project costs going to improvements for motorized vs. non-motorized roadway users. Applicant need to make their best approximation of the percentages based on their estimated project costs and their primary goals and objectives for the project.

Is the project focused primarily on "intersection" or "roadway" improvement?
For FHWA reporting purposes, designate this project as either an "Intersection" or "Roadway" Improvement and then enter the number of intersections or roadway miles to be improved.

Posted Speed Limit (mph)
Input the highest posted speed within the project limits

Annual Average Daily Traffic and Year Collected
Indicate the existing (or most current) Annual Average Daily Traffic (AADT) volume at the project location and the year the data were collected. If the proposed improvement is on a road segment, the AADT is the number of vehicles that use that section of roadway, in both directions, on an average day. If the proposed improvement is at an intersection, separate the AADT volumes approaching the intersection into Major Road and Minor Road. If the proposed improvements span a large distance and/or are spread out over several routes/locations, provide the range of AADT volumes with the high-end input in the "Major Road" field and the low-end input in the "Minor Road" field.

II.   NARRATIVE QUESTIONS

These narrative questions are intended to provide additional project details for the application reviewers and project files. Application reviewers will use this information in their assessment of the application. If significant inconsistencies are found in the application information, Caltrans reviewers may conclude that the application includes one or more "fatal flaws" and the application will be dropped from further funding considerations.

Each narrative answer is limited to 5000 characters. The intent is to keep the answers short and to the point. Bulleted answers are acceptable. Applicants can type the answers directly into the fields or Cut and Paste text ("Ctrl + V" or right-click) from other documents.

III. PROJECT COST ESTIMATE

All project costs (all phases and funding sources) must be accounted for in this section, even if substantial elements of the overall project are to be funded by other sources.

Before completing this section, the applicant must first complete a Detailed Engineer's Estimate and Cost Breakdown by Countermeasure. If the proposed project includes Non-Infrastructure (NI) elements, NI Activity Worksheet and NI Cost Estimate are also required.

Detailed Engineer's Estimate and Cost Breakdown by Countermeasure

For estimating the cost of construction items, applicants are <u>required</u> to use Caltrans template, which can be downloaded at DLA website http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply_now.htm.

For each item, enter the percentages under CM1, CM2, CM3 and other safety-related. These percentages will be used in calculating cost shares pertaining to each of up to three countermeasures and other safety related.

At the bottom of the table, a cost percentage will be calculated for each CM. For a CM to be used in B/C ratio calculation, the cost percentage of this CM must be at least 15%.

Non safety related costs and "maximum HSIP/Total percentage allowed for Construction" :

The template will calculate the percentage of non-safety-related costs and "maximum HSIP/Total percentage allowed for Construction". If non safety related costs are no more than 10% of the total construction, the "maximum HSIP/Total percentage allowed for Construction" is 90%. Otherwise, the "maximum HSIP/Total percentage allowed for Construction" is calculated as (100% - % of non-safety related costs.

Non-Infrastructure (NI) Cost Estimate

If the proposed project includes NI elements, NI Activity Worksheet and NI Cost Estimate are required. Templates can be downloaded at http://www.dot.ca.gov/hq/LocalPrograms/HSIP/NIelements.html.

Once the Detailed Engineer's Estimate and NI Cost Estimate (if needed) are completed, enter the project costs of all applicable phases, such as Preliminary Engineering, Right of Way, Construction, Construction Engineering and NI elements, into this section of the form. The costs for all phases must be included, even if no federal HSIP funding will be used to complete the phase. For each line in the table, enter the total cost (rounded up to the nearest hundred dollars) and the desired HSIP/Total Cost ratio (max. 90% unless <u>all</u> countermeasures for the proposed project are 100% federally eligible). The amounts of Federal Funds and Local/Other Funds will be calculated by the form.

The criteria below need to be met:

1) The "Total Construction Cost" must match the Detailed Engineer's Estimate.
2) The HSIP funds/total cost ratio for Construction must be no more than the ratio as calculated in the Detailed Engineer's Estimate. <u>When this ratio is less than 90%, the HSIP funds/total cost ratios for other phases (Preliminary Engineering, Right of Way, and Construction Engineering) will also likely need to be less than 90% when appropriate. This only applies to projects that are not 100% federally eligible.</u>
3) If the project includes Non-Infrastructure (NI) elements, the cost of NI elements must match the amount from the NI Cost Estimate.
4) "Federal Funds" for Preliminary Engineering may not exceed 25% of the Federal Construction Cost.

Exception: for low cost systematic projects including Roadway Safety Audits (RSA) during the PE phase, Caltrans anticipates approving PE costs over 25%. For more information on this type of project, see the example document at http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply_now.htm. Exception, if applicable, should be obtained prior to submitting applications.

5) "Federal Funds" for Right of Way may not exceed 10% of the Federal Construction Cost.

6) "Federal Funds" for Construction Engineering may not exceed 15% of the Federal Construction Cost.

7) "Federal Funds" may not exceed 90% of "Total Cost" unless all countermeasures for the proposed project are 100% federally eligible.

8) "Federal Funds" may not exceed $10,000,000.

9) To maintain efficiencies in the overall Program and Project Management, the "Total Federal Funds" must be $100,000 or more.   If needed, agencies should consider extending the project limits and /or adding another safety improvement in order to increase both the total project Benefits and Costs.

Exception: Caltrans recognizes that for a few rural agencies with extremely small numbers of crashes in the last 10 years, this $100,000 minimum federal funding requirement may not be achievable without their applications having low B/C ratios, which may not be fundable. If an agency believes their jurisdiction falls into this category, they may request an exception to this $100,000 minimum federal funding requirement through their District Local Assistance Engineer. If the District and Headquarters staff supports this request, then their application will be accepted with less than $100,000 in Total Federal Funds.

Once all costs and ratios are entered, click "Check Cost Estimate" button to perform the data validation based on the above criteria. If errors are detected, they will appear below the "Check Cost Estimate" button. Click it to check again each time after the costs have been revised. There should be no error messages with the final submittal of the application unless applicants have the approved exceptions (see items 4 and 9 above) from Caltrans. **Note:** this is a courtesy review. Not all errors can be detected. It is the applicant's responsibility to make sure all the above criteria are met.

Check Box indicating Agency does NOT request federal funds for PE Phase

If no federal funds for the PE Phase are requested, this Check Box will be checked automatically. This information will only be used for project delivery tracking. It will not affect the ranking or selection of applications.

IV.   IMPLEMENTATION SCHEDULE

Provide an estimated implementation schedule of the project based on a target date of 01/01/2016 as the project's amendment into the FTIP.

In order for the milestones to be calculated correctly, all fields needs to be filled in. For steps that are not applicable, enter "0" in the boxes.

If the applicant expects an action, task, or delay not accounted for on this form, it is the applicant's responsibility to account for this duration under the "Other" fields.

It's important for the applicant to work closely with its internal environmental and project delivery staff before completing this form to ensure realistic durations are used. Caltrans recommends the applicant review and consider all aspects of the States' PES form to minimize the likelihood of the agency failing to meet the program's delivery requirements. This form is located at: http://www.dot.ca.gov/hq/LocalPrograms/lam/forms/acrobat/LAPM06A.pdf

The Agency must commit to the delivery schedule shown in the application, with the understanding that if the agency cannot meet the minimum delivery requirements for the program, they will risk not being eligible to apply for future safety funding in this program until the project's milestone flags are removed. The delivery requirements are located at http://www.dot.ca.gov/hq/LocalPrograms/HSIP/delivery_status.htm

If the proposed project involves lengthy delivery elements (i.e. right-of-way acquisition or environmental permits from regulatory agencies), Caltrans recommends the agency consider completing the PE-Phase of the project before applying for HSIP funding, re-scope the project to focus on low-impact improvements that can be constructed expeditiously, OR selecting a different project altogether that can be delivered on an expedited schedule. Agencies may choose to seek funding in the HSIP program with the understanding that there is a high risk that their project will miss the delivery requirements, be flagged, and the agency will be excluded from future HSIP funding until after the project's milestone flags are removed.

NOTE: This form is intended to be a tool for the applicant to create a reasonable project schedule in order to reduce the risk of the applicant/agency having a future delivery flag and becoming ineligible to apply for future funding. This information will not affect the ranking or selection of applications.

V. COUNTERMEASURES, CRASH DATA AND BENEFIT/COST RATIO

Applicants are required to use the TIMS B/C Calculator tool to calculate the B/C Ratio, complete Section V of the application form, and attach the output page(s) of the TIMS B/C Calculator to the application. Given the importance of the B/C ratio for an application, applicants must pay close attention to the accuracy of the data going into a project's B/C ratio. Agencies should review Section 5 of the Local Roadway Safety Manual for California's Local Road Owners, prior to calculation the B/C ration. If Caltrans' staff determines there to be fatal flaws in any of the data, Caltrans will not be able to use the resulting B/C ratio and the application will be rejected.

TIMS B/C Calculator

Applicants are <u>required</u> to use the TIMS B/C Calculator tool.

The TIMS B/C Calculator tool is available http://tims.berkeley.edu/. To ensure the TIMS tools work properly, it is recommended that either the Firefox web or Google Chrome browser be used, which can be downloaded free at one of these websites: http://www.mozilla.org/en-US/firefox/new/ or https://www.google.com/chrome.

When applicants first log into TIMS, they will be given a user name and password. The password is randomly generated. This password cannot be modified, but if it is forgotten, a new password can easily be created.

Applicants should review the step by step information in the 'Help' tab at the website before starting to use this tool.

The Project's B/C ratio is automatically calculated by this tool, based on key data inputted by the applicant, including countermeasure selection, crash data, and project cost. Note:

  ➢ The "Application ID" in the TIMS B/C Calculator tool must match exactly with the one in the application form. In addition, applicants must enter the exact values for other key information from the TIMS B/C Calculator tool into this form.

  ➢ In the "Project Cost Data" section of the TMIS B/C Calculator, a user needs to enter:
     o Total project cost (from Section III of the application form);
     o Percentage of construction cost per countermeasure (from Detailed Engineer's Estimate);
     o Percentage of other safety-related costs (from Detailed Engineer's Estimate); and
     o Percentage of non-safety-related costs (from Detailed Engineer's Estimate).

     TIMS B/C calculator will then distribute the total project cost among the countermeasures in proportion to their percentages in the construction cost.

Once the data has been entered, the tool automatically calculates the B/C for the project and prepares a B/C calculation summary page for applicants to include as part of their applications.

Other TIMS Tools - SWITRS Query & Map and SWITRS GIS Map

In the TIMS website, there are other useful TIMS tools such as SWITRS Query & Map, and SWITRS GIS Map, which can help in identifying and analyzing crash data. Using these other TIMS tools is <u>optional</u>. Applicants from agencies without formalized, proactive, network-wide roadway safety analysis procedures are encouraged to read the California Local Roadway Safety Manual and consider utilizing these TIMS tools to help complete their safety evaluation and identify their high crash locations (Not just locations with fatalities). Applicants are encouraged to utilize the 'Help' tab in the website before starting to use these tools.

Applicants who choose to use the crash data files from these optional TIMS tools have the opportunity to utilize Collision Diagrams and Crash Summary Reports automatically generated by the TIMS tools.

Below are some specific instructions applicants must follow as they complete their studies and prepare their data for B/C ratio calculation using the TIMS B/C Calculator Tool. **Failure to follow these instructions may result in fatal flaws in the final B/C ratio. If this occurs, the application will be removed from the project selection process.**

COUNTERMEASURES

1) The available countermeasures have been broken down into three groups (Signalized Intersection, Non-signalized Intersection, and Roadway Segment). Review Section 4.0 and Appendix B of the California Local Roadway Safety Manual before making the final selection of countermeasures to utilize in the B/C ratio calculations. **The detailed description of the countermeasures and guidance on how they can be applied; will help applicants ensure they are utilizing the most appropriate countermeasures for their project.** Any single project may use up to three countermeasures from any of the groups. Pay particular attention to the requirements added to several CMs including NS3, NS12, R9, R15, R16, R19, R20, and R21.

2) Confirm that if more than one countermeasure is selected, the cost to implement each separate countermeasure represents a minimum of 15% of the total costs shown in the Detailed Engineer's Estimate. The Engineer's Estimate needs to clearly convey the correlation between the countermeasures and their respective costs. If the cost to implement the countermeasure does not represent at least 15% of the total construction cost, that countermeasure cannot be used for the proposed project. For example: A project proposing a new signal shall not include countermeasures for signing, striping, or minor median improvements as they are incidental elements of the new signal and do not represent stand-alone improvements.

3) Confirm that if more than one countermeasure is being used, the total combines Crash Reduction Factors(CRF) being applied to <u>any single set of crashes</u> is less than or equal to 80%. Caltrans has established 80% as the maximum reasonable CRF for any given local HSIP project. If an application includes 2 or 3 countermeasures and the total CRF is greater than 80%, the applicant must adjust the applied influence areas on one or more of the countermeasures so that the maximum CRF being applied to any single set of crashes is 80% or less.

CRASH DATA

1) The crash data time period must be a minimum of 5 years and a maximum of 10 years and <u>the most recent available crash data must be used</u>. Even though each countermeasure may have different influence areas and thus a unique set of crashes that must be used in its B/C calculation, the crash data time period must be the same for all crashes used in a single application.

2) Every crash applied to the countermeasures is be counted as one crash, regardless of the number of vehicles and the number of people involved in the crash. For example, if there is one crash which involved three vehicles and caused two injuries and one fatality, the crash would be tracked in the application as 1 fatal crash.

3) Every crash applied to a countermeasure must be shown on an attached collision diagram and included in an attached list of crashes or collision summary report. <u>When multiple countermeasures are being utilized, the collision diagram and summary reports need to convey which crashes correspond to which countermeasures and need to include a summary table for each countermeasure. This summary table must include the total crashes broken down by crash severity and countermeasure.</u> Applicants may need to provide separate collision diagrams and summary reports for each countermeasure. Examples of collision diagrams and summary reports are provided within many successful Cycle 5 applications at the HSIP Call for Projects Page.

4) **All crashes applied to a given countermeasure must be within the countermeasures influence-area.** The following are some general criteria to guide the applicants in determining appropriate influence-areas for countermeasures. Before applying these general criteria, it is the applicant's responsibility to ensure that they are reasonable for their particular application. (More guidance relating to each specific countermeasure is included in the latest version of the Local Roadway Safety Manual for California Local Road Owners in Section 4D and Appendix B).

   a) New Traffic Signals: All crashes within 250 feet of the new signal.

b) For intersection improvements, collisions that occurred within 250 feet of the intersection in all directions affected by the improvement may be used. If the distance to the nearest intersection is less than 500 feet, only those collisions that occurred from mid-block may be used.

c) Longitudinal Improvements (guardrail, raised median, turn pockets, etc): All crashes potentially effected by and within the limits of the improvement.

d) Signage, striping, delineators, or other warning devices: All crashes potentially effected by and/or within the limits of the driver's potential reaction to the improvements.

e) The influence-area may be extended beyond the physical improvements and/or the limits above if standard traffic engineering principles, as documented in Caltrans, American Association of State Highway and Transportation Officials (AASHTO) or FHWA publications, suggest it would be appropriate to do so. When the influence-area of the project is not obvious and judgment has been used in identifying the influence-area, it is the applicant's responsibility to provide additional documentation showing the reasonableness of the judgment.

5) In the TIMS B/C Calculator, there are three types of injury crashes: "Severe Injury", "Injury – Other Visible" and "Injury – Complaint of Paint". <u>If the injury crashes in your agency's crash database do not have more detailed sub-categories, all of the injury crashes must be entered as "Injury – Other Visible".</u>

6) Do not include collisions unreported by law enforcement. Collision summary reports that corroborate the collision numbers must be attached to the application. Do not attach the actual collision reports prepared by the law enforcement officer. For applicants using TIMS Query & Map tool to analyze and summarize SWITRS crash data, applicants may find it necessary to add in known crashes that were not included in the TIMS summaries. These crashes may be added manually as long as the agency's safety managers include supporting documentation (shown on the collision diagram and summary report) and a comment and/or signature attesting to the source of these crashes and the accuracy of the total crash data.

7) For most HSIP projects, the safety countermeasures constructed by the projects will not eliminate 100% of the safety risks and future crashes. This is especially true for lower-cost systemic improvements, such as signing and striping projects. Based on this, it is often reasonable for an agency to construct follow-up improvements along a corridor or at a location that has already had an HSIP project constructed. (A good example of this would be an agency completing a striping upgrade project on a corridor and then coming back in a later HSIP cycle and proposed a signing project on the same corridor based on an overlapping set of crashes.) For this reason, Caltrans allows agencies to reuse crashes in a current call for projects that have been used in a prior call for projects as long as the combines CRF applied to the crashes by both projects is not greater than 80%. It is the agency's responsibility to verify this and document it in the application in the Narrative Questions or separate backup calculation.

BENEFIT/COST RATIO

As agencies calculate the B/C ratio of their projects and HSIP applications, they should consider both the nationally accepted methodologies that provide the greatest reliability and the methodologies Caltrans uses to administer a statewide selection process that can address the widely varying local projects across the state while not requiring an overly complex and burdensome selection process.

1) **<u>Agencies shall only submit applications with B/C ratios of 5.0 or greater</u>. Applications submitted with B/C ratios less than 5.0 will be rejected and not be evaluated.**

- Agencies experiencing difficulty developing applications with B/C ratio higher than 5.0 are encouraged to review Appendix A and Section 5.4 of the latest version of the Local Roadway Safety Manual for California's Local Road Owners.

2) Only the Overall B/C Ratio for the project will be used to rate the project on a statewide basis.

3) Individual countermeasure's effectiveness: The TIMS B/C Calculator also calculates each individual countermeasure's effectiveness (B/C ratio) based on its individual benefit and cost. These individual B/C ratios are not used in the ranking or selection process and are provided for the applicant's information only. By approximating each individual countermeasures' effectiveness, the hope is that applicants will be able to select the most effective countermeasures for their projects and remove elements of the overall project that do not provide much safety benefits; resulting in a higher overall B/C ratio for the project.

VI.   APPLICATION ATTACHMENTS

Check all attachments included in this application. Many of the attachments are listed as "Required". Failure to include the required attachments will result in the disqualification /rejection of the application.

1) **Engineer's Checklist (Required)**
   a) Applicants must use Caltrans template at http://www.dot.ca.goc/hq/LocalPrograms/HSIP/apply_now.htm.
   b) The checklist is to be used by the engineer in "responsible charge" of the preparation of this HSIP application to ensure all of the primary elements of the application are included and the application is free of errors in the calculation of the Benefit-to-Cost Ratio (B/C).

2) _____**Vicinity map / Location map (Required)**
   a) The application reviewers and the Program Managers must be able to quickly pinpoint the project's location in the state and local agency. This map needs to show where the project is located within the overall agency. It is not intended to show the specific project limits.

3) _____**Project maps/plan showing existing and proposed projects limits and conditions (Required)**
   a) These plans need to show the limits of the propose improvements and that the proposed improvements are technically feasible and design standard are expected to be met including: lane widths, turning movements, lane transitions/off-sets sight distance, etc.
   b) The application reviewers must be able to confirm whether the proposed improvements fall within the existing right-of-way or they require new right-of-way acquisition. If the project encroaches on Caltrans', Railroad, or other agencies' right-of-way; include a copy of an email or letter of support from the owner.

4) _____**Pictures of existing condition (Required)**
   A minimum of two pictures per countermeasure, showing the existing safety conditions/concerns that will be altered by the proposed countermeasure and project.

5) _____**Collision Diagram(s) (Required)**
   a) The application reviewers must be able to confirm that for each collision, there is a clear correlation between the specific countermeasure(s) it applies to, collision diagram, collision list and collision summary.
   b) When needed to clearly demonstrate the correlation between the crashes and multiple countermeasures, applicants should provide separate collision diagrams for each countermeasure and/or location.

6) _____**Collision List (Required)**
   a) Applicants must include a list of crashes (by location) that matches the crashes shown on the collision diagrams and applied to a countermeasure in the B/C calculation. This list is often a direct output from SWITRS, Crossroads, TIMS or other crash databases. Crashes that were not appropriate to include in the project B/C calculations must be crossed through or removed.
   b) If the output list includes crashes that were not appropriate to include in the project B/C calculations, these crashes must be crossed through or removed.
   c) This report/list must show the total number of crashes (not number of victims) summarized by crash severity.

7) _____**Collision Summary (Required)**
   a) Applicants must use Caltrans template at http://www.dot.ca.goc/hq/LocalPrograms/HSIP/apply_now.htm.
   b) This page summarized all the crashes being applied to a project and allows the applicant and application reviewers to easily confirm the crashes for each individual location/countermeasure match the corresponding collision diagram and collision list.
   c) The crash summary for each crash countermeasure must match the crashes included in the project's B/C Ratio calculation.

8) _____**Detailed Engineer's Estimate (Required)**
   a) Applicants must use Caltrans template at http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply_now.htm.
   b) Instructions for the completion of the estimate, including the details required for HISP applications, are included in the Caltrans template.
   c) This page allows application reviewers to easily review how the total construction costs are split among countermeasures, other safety-related improvements and non-safety-related improvements. This split will be used as inputs in TIMS B/C Calculator.

9) _____ **TIMS B/C output summary sheet (Required)**
   a) The TIMS tool automatically creates and formats a summary sheet.
   b) The "Application ID" entered into the TIMS tool and displayed on this sheet must be an exact match to the application ID on the cover sheet of the application.
   c) This signed sheet must be attached to the hard-copy of the application and scanned and included in the electronic files.

10) _____ **Warrant studies (Required when applicable)**
   a) Required when the project includes an improvement that requires an engineering study to warrant the installation of certain traffic control devices, e.g., traffic signals, pedestrian signals, etc. When applications include traffic control features like these, it is the applicants' responsibility to ensure all requirements of the latest CA MUTCD are met. Failure to include required warrants completed per CA MUTCD will result in the project being disqualified. See the Engineer's Checklist for more details on Warrant Studies.

11) _____ **Letter (or email) of Support from Caltrans (Required when applicable)**
   a) All projects that encroach within Caltrans' rights-of-way must have a letter or email from Caltrans conveying district Traffic Office's "support" or at least "neutral-support" for the project. Projects that do not contain documentation of Caltrans' position will be disqualified.
   b) All "joint funded" projects with Caltrans must have a letter of support from Caltrans indicating the project's scope, schedule, cost and cost sharing ratios. Applications for joint funded projects that do not contain a letter of support will be disqualified.

12) _____ **Non-Infrastructure (NI) Activity Worksheet and NI Cost Estimate (Required when applicable)**
   a) All projects with NI elements must be safety focused and support the project's infrastructure improvements. Applications with NI elements must include NI Activity Worksheet and NI Cost Estimate, for which templates can be downloaded at http://www.dot.ca.gov/hq/LocalPrograms/HSIP/NIelements.html.
   b) The total cost of NI elements in Section III of the application form must match that in the NI Cost Estimate.

13) _____ **Additional narration, documentation, letters of support, etc.**
   a) These may be used to help illustrate the safety concerns within the project limits.
   b) These should be directly related to documenting the merits of the need, purpose and scope of the project.
   c) General documents and/or full reports should not be included.

VII.   APPLICATION DATA VERIFICATION AND SIGNATURE

It is the agency's responsibility to ensure the HSIP application is prepared under the responsible charge of a licensed Civil Engineer in the State of California. In addition, the applicant's transportation manager needs to review and sign the application. Applications that do not contain the required signature(s) and engineer's stamp will be disqualified.

The agency's engineer and manager attesting to the information in the application must take care to ensure they follow these application instructions and standard engineering principles, including but not limited to: all data is accurate and represents the total scope and costs; countermeasures are applied consistently with the Local Roadway Safety Manual; each countermeasures represent a minimum of 15% of the construction costs; and, crash data is accurately shown and applied to countermeasures.